Overview

This Grin2b CRISPR/Cas9 generated mutant of the Grin2b gene possesses loxP sites flanking 599 nucleotides (exon 4 of Ensembl transcript 201 and exon 5 of transcript 202). This strain may be useful for generating conditional mutations in applications related to neurodevelopment.

Donating Investigator
Cathleen Lutz, The Jackson Laboratory

GENETIC OVERVIEW

Genetic Background
Generation

Grin2b
tem5Lutz

Allele Type
Gene Symbol
Gene Name

Endonuclease-mediated (Conditional ready (e.g. floxed), No functional change)
Grin2b
glutamate receptor, ionotropic, NMDA2B (epsilon 2)

RESEARCH APPLICATIONS

Neurobiology Research
Developmental Biology Research
Details

Detailed Description

CRISPR/cas9 endonuclease mediated genome editing of the Grin2b, glutamate receptor, ionotropic, NMDA2B (epsilon 2), gene was used to introduce loxP sites flanking 599 nucleotides (exon 4 of Ensembl transcript 201 and exon 5 of transcript 202). The targeted Grin2b gene encodes part of the excitatory neurotransmitter N-methyl-D-aspartate (NMDA) receptor. Mutations in this gene have been associated with Mental Retardation, Autosomal Dominant 6, with or without Seizures and Early Infantile Epileptic Encephalopathy 27. Mice that are homozygous for this allele are viable and fertile. When these mutant mice are bred to mice that express Cre recombinase, resulting offspring will have loxP site flanked region deleted in the cre-expressing tissues. As the mice are characterized, we will modify the strain description and add phenotype data.

This model was generated in collaboration with the Simons Foundation Autism Research Initiative (SFARI).

Development

Control Suggestions

Genetics

Grin2b\textsuperscript{em5Lutzy}

Disease/Phenotype

Disease Terms

Research Areas By Phenotype
Genotyping Protocols

Probe: Edil3-Probe
Probe: Grin2b (5'Loxp)

Genotyping resources and troubleshooting

Breeding Considerations

When maintaining a live colony, these mice can be bred as homozygotes.

Additional Breeding and Husbandry Support

Mating System
Homozygote x Homozygote

Citation

When using the Grin2b flox mouse strain in a publication, please cite the originating article(s) and include JAX stock #032664 in your Materials and Methods section.

Animal Health Reports

Facility Barrier Level Descriptions

Production of mice from cryopreserved embryos or sperm occurs in a maximum barrier room, G200

Pricing & Availability

Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.

CRIORECOVERY - DOMESTIC PRICING
PAYMENT TERMS AND CONDITIONS

Terms are granted by individual review and stated on the customer invoice(s) and account statement. These transactions are payable in U.S. currency within the granted terms. Payment for services, products, shipping containers, and shipping costs that are rendered are expected within the payment terms indicated on the invoice or stated by contract. Invoices and account balances in arrears of stated terms may result in The Jackson Laboratory pursuing collection activities including but not limited to outside agencies and court filings.

THE JACKSON LABORATORY’S GENOTYPE PROMISE

The Jackson Laboratory has rigorous genetic quality control and mutant gene genotyping programs to ensure the genetic background of JAX® Mice strains as well as the genotypes of strains with identified molecular mutations. JAX® Mice strains are only made available to researchers after meeting our standards. However, the phenotype of each strain may not be fully characterized and/or captured in the strain data sheets. Therefore, we cannot guarantee a strain’s phenotype will meet all expectations. To ensure that JAX® Mice will meet the needs of individual research projects or when requesting a strain that is new to your research, we suggest ordering and performing tests on a small number of mice to determine suitability for your particular project. We do not guarantee breeding performance and therefore suggest that investigators order more than one breeding pair to avoid delays in their research.

● Terms Of Use

TERMS OF USE

General Terms and Conditions

ADDITIONAL USE RESTRICTIONS APPLY

The use of this mouse model is subject to the terms and conditions of the Limited License from The Broad Institute.

The use of this mouse model is subject to the terms and conditions of the Limited Use Label License from Caribou Biosciences, Inc.

LICENSING INFORMATION

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● Related Strains

All